

WEST



Create A Case

Select?	Database	Query	Plural	Op	Thesaurus	Set Name
<input checked="" type="checkbox"/>	USPT	(nik or hgk protein) AnD (((@pd > 20021204)!))	YES	ADJ	ASSIGNEE	L1
<input checked="" type="checkbox"/>	USPT	(L1 and apoptosis) AnD (((@pd > 20021204)!))	YES	ADJ	ASSIGNEE	L2
<input checked="" type="checkbox"/>	USPT	(L1 and kinase) AnD (((@pd > 20021204)!))	YES	ADJ	ASSIGNEE	L3
<input checked="" type="checkbox"/>	USPT	(L3 and Nck) AnD (((@pd > 20021204)!))	YES	ADJ	ASSIGNEE	L4
<input checked="" type="checkbox"/>	USPT	p75NTR	YES	ADJ		L5
<input checked="" type="checkbox"/>	USPT	NADE	YES	ADJ		L6
<input checked="" type="checkbox"/>	USPT	L6 and L5	YES	ADJ		L7
<input checked="" type="checkbox"/>	USPT	L6 and bind\$3	YES	ADJ		L8
<input checked="" type="checkbox"/>	USPT	bex3 or bex-3	YES	ADJ	ASSIGNEE	L9
<input checked="" type="checkbox"/>	USPT	NGFR-associated protein 1	YES	ADJ	ASSIGNEE	L10

Please enter the case name:

Rules for naming Cases

- Case names can only contain alphanumeric characters including underscore (_).
- Any other special characters or punctuation characters will be automatically removed prior to saving the case.

Johns Hopkins University

PubMed
Nucleotide
Protein
Genome
Structure
PMC
Taxonomy
OMIM

Search for


Limits
Preview/Index
History
Clipboard
Details

Show:

***300361**

Links

NERVE GROWTH FACTOR RECEPTOR-ASSOCIATED PROTEIN 1; NGFRAP1***Alternative titles; symbols*****NGFR-ASSOCIATED PROTEIN 1****p75(NTR)-ASSOCIATED CELL DEATH EXECUTOR; NADE**Gene map locus Xq22.1-q23**TEXT**

The C-terminal cytoplasmic domain of p75(NTR) (NGFR; [162010](#)) has a type-2 death domain. However, TRAF (e.g., TRAF6; [602355](#))-like proteins that interact with this domain do not affect NGF ([162030](#))-dependent apoptosis. Using a yeast 2-hybrid screen with the cytosolic domain of p75(NTR) as bait, [Mukai et al. \(2000\)](#) obtained cDNAs encoding mouse and human p75(NTR)-associated cell death executor, or NADE. Human NADE is identical to the HGR74 cDNA cloned by [Rapp et al. \(1990\)](#) from an ovarian granulosa cDNA library. HGR74 was expressed in testis, prostate, seminal vesicle, and ovarian granulosa cells ([Rapp et al., 1990](#)). By sequence analysis, [Mukai et al. \(2000\)](#) predicted that the 111-amino acid NADE protein has a leucine-rich nuclear export signal (NES) and 2 ubiquitination sequence boxes. Western blot analysis showed expression of mouse Nade only after proteasome inhibition, implying that native Nade is modified by the ubiquitin conjugating system. Immunofluorescence microscopy demonstrated expression of wildtype Nade, but not Nade carrying leu94-to-ala and leu97-to-ala mutations in the NES, in the cytoplasm. GST pull-down analysis indicated that the C terminus of Nade binds to the cytoplasmic cell death domain of p75(NTR). Coimmunoprecipitation analysis showed that NGF induces interaction of NADE and p75(NTR). TUNEL analysis determined that NGF, but not other neurotrophins, could induce apoptosis in cells expressing NADE and p75(NTR). NGF-treated cells expressing NADE and p75(NTR) processed CASP2 ([600639](#)) and CASP3 ([600636](#)) to their active forms. Confocal microscopy established that most NGF-treated oligodendrocytes underwent apoptosis and expressed NADE. 

[Scott \(2001\)](#) mapped the NGFRAP1 gene to Xq22.1-q23 based on sequence similarity between the NGFRAP1 sequence and the chromosome X clone RP13-349O20 (GenBank [AL606763](#)).

REFERENCES

1. Mukai, J.; Hachiya, T.; Shoji-Hoshino, S.; Kimura, M. T.; Nadano, D.; Suvanto, P.; Hanaoka, T.; Li, Y.; Irie, S.; Greene, L. A.; Sato, T.-A. :
NADE, a p75NTR-associated cell death executor, is involved in signal transduction mediated by the common neurotrophin receptor p75NTR. *J. Biol. Chem.* 275: 17566-17570, 2000.
PubMed ID : [10764727](#)
2. Rapp, G.; Freudenstein, J.; Klaudiny, J.; Mucha, J.; Wempe, F.; Zimmer, M.; Scheit, K. H. :
Characterization of three abundant mRNAs from human ovarian granulosa cells. *DNA Cell Biol.* 9: 479-485, 1990.
PubMed ID : [2171551](#)
3. Scott, A. F. :
Personal Communication. Baltimore, Md., 10/8/2001.

CONTRIBUTORS

Alan F. Scott - updated : 10/10/2001

CREATION DATE

Paul J. Converse : 10/9/2001

EDIT HISTORY

carol : 11/24/2001

joanna : 10/10/2001

Copyright © 1966-2003 Johns Hopkins University

Display	Detailed	Show:	20	Send to	Text
---------	----------	-------	----	---------	------

[Disclaimer](#) | [Write to the Help Desk](#) | [Privacy Policy](#)
[NCBI](#) | [NLM](#) | [NIH](#)



Generate Collection

Print

L5: Entry 1 of 5

File: USPT

May 6, 2003

US-PAT-NO: 6558912

DOCUMENT-IDENTIFIER: US 6558912 B1

TITLE: NRAGE nucleic acids and polypeptides and uses thereof

DATE-ISSUED: May 6, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Barker; Philip	Westmount			CA
Verdi; Joseph	London			CA
Salehi; Amir	Point Claire			CA

US-CL-CURRENT: 435/7.23; 435/7.1, 435/7.21

CLAIMS:

What is claimed is:

1. A method for identifying a compound that modulates apoptosis, said method comprising: (a) contacting (i) a p75NTR polypeptide; (ii) an NRAGE polypeptide comprising at least 90% sequence identity to SEQ ID NO: 1 or SEQ ID NO: 2, said NRAGE polypeptide capable of binding said p75NTR polypeptide; and (iii) a candidate compound; and (b) monitoring the level of binding of said NRAGE polypeptide to said p75NTR polypeptide, wherein a change in said level of binding in the presence of said candidate compound, relative to a level of binding of said NRAGE polypeptide to said p75NTR polypeptide in the absence of said candidate compound, identifies said candidate compound as a compound that modulates apoptosis.
2. The method of claim 1, wherein said contacting takes place in a cell.
3. The method of claim 1, wherein said cell is in a mammal.
4. The method of claim 1, wherein said cell is from a mammal.
5. The method of claim 4, wherein said mammal is a human or a rodent.
6. The method of claim 1, wherein said contacting takes place in a cell-free system.
7. The method of claim 1, wherein said NRAGE polypeptide is human NRAGE (SEQ ID NO: 1) or rat NRAGE (SEQ ID NO: 2).
8. The method of claim 6, wherein said NRAGE polypeptide is human NRAGE (SEQ ID NO: 1) or rat NRAGE (SEQ ID NO: 2).
9. The method of claim 2, wherein said cell is in vitro.
10. The method of claim 9, wherein said NRAGE polypeptide is human NRAGE (SEQ ID NO: 1) or rat NRAGE (SEQ ID NO: 2).